



US005931873A

United States Patent [19]

Cisar

[11] Patent Number: 5,931,873

[45] Date of Patent: *Aug. 3, 1999

[54] PROGRAMMABLE MOBILE DEVICE WITH THUMB WHEEL

[75] Inventor: James M. Cisar, Wadsworth, Ohio

[73] Assignee: Telxon Corporation, Akron, Ohio

[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

5,409,478	4/1995	Gerry et al.	606/1
5,411,185	5/1995	Drobish	222/402.17
5,433,350	7/1995	Graubart	222/136
5,473,344	12/1995	Bacon et al.	345/163
5,507,457	4/1996	Kull	701/19
5,540,125	7/1996	Haskell	81/70
5,648,897	7/1997	Johnson et al.	364/188
5,681,015	10/1997	Kull	701/20
5,684,861	11/1997	Lewis et al.	379/59

Primary Examiner—Jacques H. Louis-Jacques
 Attorney, Agent, or Firm—Renner, Otto, Boisselle & Sklar, P.L.L.

[21] Appl. No.: 08/726,030

[22] Filed: Oct. 4, 1996

[51] Int. Cl.⁶ G06G 7/76

[52] U.S. Cl. 701/1

[58] Field of Search 701/1, 19, 20,
 701/29, 31; 246/187 C, 167 R, 182 B, 169 R;
 340/933, 539, 961; 702/76, 68; 324/76.15,
 76.24

[56] References Cited

U.S. PATENT DOCUMENTS

4,126,779	11/1978	Jowers et al.	235/432
4,359,222	11/1982	Mith, III et al.	340/706
4,627,277	12/1986	Baer	73/170 R
4,650,161	3/1987	Kaneko	73/862.39
4,685,065	8/1987	Braun et al.	364/485
4,993,004	2/1991	Loizeaux	368/107
5,374,015	12/1994	Bezos et al.	701/70

[57] ABSTRACT

A programmable mobile terminal which includes a thumb wheel for selecting among a plurality of functions executable by the mobile terminal. The programmable mobile terminal allows a user to employ the same hand that is holding the mobile terminal to scroll through and select a function among a plurality of functions via the thumb wheel. The wheel portion of thumb wheel is rotated either clockwise or counter clockwise by the user's thumb or other finger to scroll a screen cursor through the functions and once the screen cursor of the mobile terminal is positioned at a desired function, the user can depress the wheel portion in a transaxial direction with the same thumb or finger to select the desired function. Also, the programmable mobile terminal allows a user to scan bar code information and use the thumb wheel for selecting among a plurality of functions relating to the scanned bar code information.

22 Claims, 6 Drawing Sheets

